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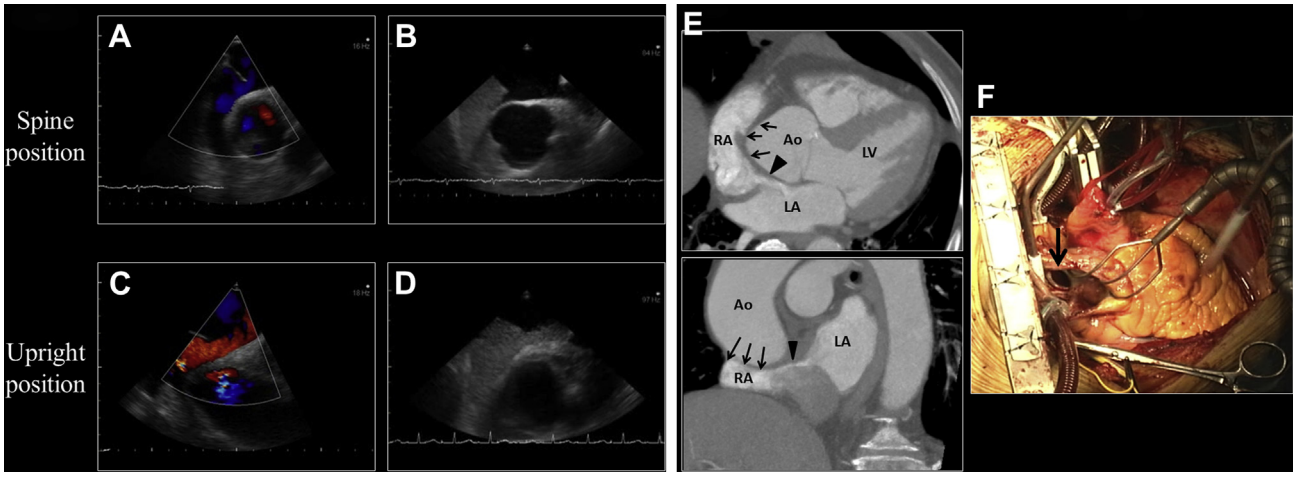
IMAGES IN CARDIOLOGY

Platypnea-Orthodeoxia Syndrome

Insights of Mechanism From Imaging

Shohei Yoshida, MD,* Sawa Nambu, MD,† Takao Matsubara, MD,† Toshihiko Yasuda, MD,† Kenji Miwa, MD,† Masaru Inoue, MD,† Ryota Teramoto, MD,† Hirofumi Okada, MD,† Hounin Kanaya, MD,† Makoto Tsubota, MD,‡ Tetsuo Konno, MD,* Kenshi Hayashi, MD,* Masa-aki Kawashiri, MD,* Masakazu Yamagishi, MD*

Kanazawa, Japan



From the *Division of Cardiovascular Medicine, Kanazawa University Graduate School of Medicine, Kanazawa, Japan; †Division of Cardiology, Ishikawa Prefectural Central Hospital, Kanazawa, Japan; and the ‡Division of Cardiovascular Surgery, Ishikawa Prefectural Central Hospital, Kanazawa, Japan.
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A 62-year-old man was admitted to our hospital because of cerebral infarction. Interestingly, oxygen saturation declined from 92% in supine to 78% in the upright position. Transesophageal echocardiography revealed the atrial septal defect (ASD) 10 mm in diameter. Although color Doppler demonstrated only left-to-right shunt, contrast imaging revealed mild bidirectional shunt in the supine position (**A and B**, Online Videos 1 and 2). Surprisingly, massive right-to-left shunt occurred in the upright position (**C and D**, Online Videos 3 and 4).

Multislice computed tomography in the upright position demonstrated the right-to-left shunt through the ASD **(E, arrowhead)** and the compressed right atrium by elongated aorta that might enhance right-to-left shunt **(E, arrows)**. There was no evidence of pulmonary hypertension; thus, the patient was diagnosed as platypnea-orthodeoxia syndrome associated with ASD, which was confirmed on surgery to be closed **(F, arrow)**. Ao = aorta; LA = left atrium; LV = left ventricle; RA = right atrium.